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ABSTRACT

A study examined the extent to which beginning vocational education teachers are prepared to provide basic skills instruction and to teach special student populations. A total of 740 beginning vocational teachers from 24 states (3 randomly selected states in each of 8 geographic regions of the country) were surveyed. The study sample included both degreed and nondegreed teachers and teachers in all vocational service areas. Questionnaires were also sent to the chief vocational program administrators at all of the vocational teacher colleges in the 24 states (N = 114), with 69 returning usable instruments. Local school administrators or mentors (N = 530) were also surveyed. On average, the number of credit hours reportedly taken by beginning vocational teachers in mathematics (7.2 credits) is about the same as the average number of math credits taken by either academic teachers (6.0 credits) or arts and science majors (7.2 credits). The average number of English credits taken by the beginning vocational teachers (10.2 credits) was slightly less than those taken by the academic teachers and arts and science majors (11.3 and 11.8, respectively). In each of the other three academic areas, however, the beginning vocational teachers took significantly fewer credit hours than did the academic teachers or arts and science majors. The fact that the large majority of the beginning vocational teachers was white (86.2 percent) pointed to the need to recruit and train greater numbers of teachers who could identify firsthand with the special needs of minority students. (MN)

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VOCATIONAL TEACHER EDUCATION: SELECTED HIGHLIGHTS FROM A SURVEY OF PRESERVICE AND INSERVICE PREPARATION

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Problem

This study addressed the question of how well prepared beginning vocational education teachers are to provide basic skills instruction and to teach special student populations. As a result of the school reform and excellence movement in education, vocational education teachers are being called upon to integrate and reinforce basic skills instruction in their teaching. For example, according to United States Secretary of Education William Bennett (1985),

> students taking vocational courses should also be provided an academic education since it is becoming increasingly evident that industry requires a literate workforce trained in problem-solving and higher order thinking. A solid foundation in the basics and liberal arts will better prepare the students both for specific jobs and for a more satisfying life in our society. (p. 2)

Similarly, the Carl D. Perkins Vocational Education Act of 1984 has placed heavy emphasis on the need for vocational teachers to provide instruction to students with special needs. As pointed out by the Holmes Group report (1986),

> current literature demonstrates that well-meaning, and well-educated persons will make a number of predictable pedagogical mistakes that will disproportionately harm at-risk pupils who traditionally do not do well in school. (p. 58)

The Holmes Group thus suggests that "competent teachers are important to all students, but they are especially critical for the growing number of educationally at-risk children" (p. 33).

They recommend that "all career teachers should be qualified to effectively teach students with special needs in regular classrooms" (p. 95).

However, there is no indication that teachers are being adequately prepared to meet such challenges. In addition, little is known about the nature and extent of innovative policies and initiatives being undertaken by states and local educational agencies to ensure that current and future teachers will be adequately prepared to respond to these new challenges in vocational education.

The focus of current teacher education reform proposals is on policy and structural change (e.g., extended periods of preparation, strengthened certification and testing standards). Less attention has been given to the quality and rigor of instructional practices and curriculum content in teacher preservice and inservice preparation. The Intergovernmental Advisory Council on Education (1985) points out that

> contrary to popular belief, only 20 percent of the typical program of prospective high school teachers is made up of education courses and more than a third of that is student teaching. . . . No data is currently available about the range of content in teacher education programs, nor specific knowledge and skills expected at exit. (p. 7)

Feiman-Nemser, Floden, and Cohen (1986) point out that more than 20 years ago teacher education was called an "unstudied problem" and researchers were urged to examine what actually went on in programs as one basis for understanding their effects. They further note that for the most part, "that call went unheeded. As

a result, we know little about what teacher education programs are like and what impact they have on teachers" (p. 4).

In the Metropolitan Life Insurance Company (1984) survey of teacher attitudes, "50 percent of teachers polled felt their preparation did not serve them well in teaching." In fact, "only 10 percent believed their training prepared them well for the classroom" (p. 6).

As little as we know about preservice teacher education, we know even less about inservice education. Historically, recognition of the importance and provision of appropriate structures, models, and mechanisms for inservice staff development in schools has been absent. It is only recently, and largely as a result of such reports as the Holmes Group report (1986) and the Carnegie Task Force report on teaching (1986), that we have begun to think of teacher education as a process of career development that continues throughout a teacher's professional life span. The National Commission for Excellence in Teacher Education (1985) puts it this way: "Teacher education is not a single, time-bound activity, but a continuing process of career development. . . . Teachers have a right to expect an . . . integrated program for continued professional development" (p. 2). Instead, very often, inservice training for working teachers is "keyed to taking certain courses, often is fragmented and unfocused, and does not relate to a specific area of knowledge or improved classroom technique" (Committee for Economic Development 1985, p. 78). According to the Committee, staff development in education "is a low-funded, low-priority budget item for most school boards. It

has traditionally been viewed as a pay increase for credits earned, with little or no attention paid to the specific needs of the individual or the school" (p. 100).

Objectives

Given the calls for teacher reform, our lack of knowledge about the content of teacher preparation programs, and vocational education's mandates for improving students' basic skills development and for better meeting the needs of special student populations, there is a need to determine to what extent vocational education teachers are prepared to provide basic skills instruction and how well prepared they are to teach special student populations.

A survey of beginning vocational teachers' perceptions of their competencies and limitations for teaching basic skills and for teaching special populations was conducted. Included as beginning teachers were first-year degreed and nondegreed vocational teachers in all of the vocational service areas.

The overall objectives of the study were to:

- Identify the perceptions of beginning vocational teachers regarding their competencies and limitations for teaching basic skills and special student populations
- Determine how and where beginning vocational teachers acquired the skills and competencies needed to teach basic skills and special student populations
- Identify recent improvements and recommend needed changes in preservice and inservice vocational teacher preparation to improve their responsiveness to beginning teachers' needs for preparation to teach basic skills and special student populations

Procedures

Three states randomly selected from within each of eight geographic regions of the country were used to select the study samples. The study worked through the teacher certification and credentialing units and vocational education units in each of the 24 state departments of education to obtain lists of names and addresses of all beginning vocational education teachers in school year 1985-86. The sample of beginning vocational teachers consisted of 740 teachers. It included both degreed and nondegreed teachers and teachers in all vocational service areas (e.g., home economics, marketing, business and office).

Using an existing directory of vocational teacher education institutions (Adams and Diehn 1984), all of the vocational teacher colleges in the random sample of 24 states were identified (N = 114). The chief vocational program administrator at each institutions was mailed a questionnaire and 69 institutions returned useable instruments.

The third sample included in the study was that of local school administrators or mentors. This sample was identified by name by each of the beginning teacher respondents. Each of the beginning teachers was asked to identify the individual within his or her school system who had the major responsibility and best opportunity for observing, evaluating, and/or monitoring his or her performance and helping him or her with inservice education activities during the induction year of teaching. (The size of this sample was 530 administrators/mentors.)

Data were collected by mail survey during the fall of 1986. Three instruments specifically designed to address the research objectives were developed. These instruments were: (1) a Beginning Vocational Teacher Questionnaire, (2) a Teacher Educator Questionnaire, and (3) and Administrator/Mentor Questionnaire.

Additionally, data regarding state mandated competency testing requirements for the certification of vocational teachers across the 50 states were gathered from the state directors of vocational education. These data were collected by phone survey through the Adult Vocational and Technical Education Electronic Mail Network (ADVOCNET).

A variety of previously developed and related teacher questionnaires and interview guides were reviewed to aid staff in developing and refining the three questionnaires used by this study. Appropriate rating scales and coding schemes were developed or adapted from prior instrumentation. Each of the questionnaires was designed for use as a mailed survey instrument to collect data primarily focused on the beginning teachers' preparation for and performance in teaching basic skills and special student populations.

The beginning teacher survey is essentially a self-report that relies on teachers' judgments about their own performance. As noted by Borich (1980), the assumption underlying this approach is that "the performer (teacher) can best judge his or her own performance and, when explicitly asked to do so, can make an objective judgment" (p. 42). Borich points out that this assumption is most tenable when the purpose of data collection--as

in the present study--is the evaluation of training, not the evaluation of individual teachers.

The three instruments were pilot tested locally with appropriate types of respondents within the National Center and the surrounding community. Respondents were interviewed and responses were analyzed prior to revisions. The questionnaires were also reviewed by a technical panel of five individuals from outside the National Center who were expert in vocational education, teacher education, special needs students, and basic skills instruction.

Several procedures were followed to check on the validity and reliability of the three questionnaires. For example, many of the items across the questionnaires and their response scales were taken from previously published instruments for which adequate reliability and validity data were reported. Additionally, the content validity of each of the questionnaires was checked through pilot tests over several iterations both by content experts and by representatives of the intended respondent groups. Each of the questionnaires was also completed individually by several respondents who were instructed to "think aloud" in responding to the items. This provided insights into the adequacy of response options/alternatives on the rating scales and the correspondence between the rating scales and questions.

Modifications and revisions in questionnaire content were made after each review to check item sampling and the homogeneity of items and to remove or reformulate irrelevant or inappropriate content. Additionally, the several internal and external reviews

that required respondents to complete questionnaires were conducted over the course of several weeks and provided an opportunity to check on the temporal stability of the questionnaires.

Findings and Conclusions

Beginning Vocational Teachers--Who Are They?

The study sample of 740 beginning vocational teachers is an unbiased national sample drawn from 24 states in 8 geographic regions of the country. Table 1 shows that the estimated rate of return for teachers was 32 percent overall. The rate of return for teacher educators and school administrators--two of the other respondent groups surveyed by the study--was 23 percent and 61 percent respectively. Table 2 provides a detailed summary of the distribution and rate of return for the beginning teacher sample by state and by region.

TABLE 1

ESTIMATED RATE OF RETURN FOR THREE STUDY SAMPLES

	Estimated Sample sizes	Useable Returns	Estimated Rate of Return
Teachers	2335	740	32%
Administrators/ Mentors	2335	530	23%
Teacher Educators	114	69	61%

TABLE 2

NUMBER AND PERCENT OF USEABLE BEGINNING TEACHER RETURNS BY STATE AND REGION

Regions/States	Estimated Sample Size	Useable Returns No.	%
New England			
Massachusets	45	16	36
Vermont	10	4	40
New Hampshire	10	4	40
Subtotal	65	24	37
Mid Atlantic			
Maryland	44	14	32
Pennsylvania	152	48	32
Delaware	9	1	11
Subtotal	205	63	31
Great Lakes			
Indiana	88	25	28
Ohio	186	102	55
Wisconsin	64	32	50
Subtotal	338	159	47
Plains			
Missouri	157	45	29
Kansas	40	16	40
Nebraska	39	13	33
Subtotal	236	74	31
South East			
Mississippi	123	42	34
North Carolina	107	43	40
Tennessee	85	28	33
Subtotal	315	113	36
South West			
Arizona	50	19	38
Texas	308	85	28
New Mexico	27	10	37
Subtotal	385	114	30
Rocky Mountains			
Montana	29	13	45
Colorado	38	17	45
Wyoming	27	8	30
Subtotal	94	38	40
Far West			
California	506	90	18
Washington	127	42	33
Oregon	64	23	36
Subtotal	697	155	22
Total	2335	740	32%

Approximately half of the teachers were male (362), half were female (354), and 24 did not report their sex. The large majority (86.2 percent) were white, 3.1 percent were Hispanic, and 3.1 percent were Black. The remainder were American Indian (N=11), Asian American (N=4), or did not report their ethnic origin (N=24).

Interestingly, a newly released national survey of college education majors by the American Association of Colleges for Teacher Education--AACTE (1987) confirms that the ethnic mix of the study's sample of beginning vocational teachers is also an accurate reflection of the ethnic mix for all education majors. It found that 5 percent of education students in the 1985-86 academic year were black, while only 3 percent were Hispanic.

If these data on ethnic origin are a reasonable reflection of conditions in the field of vocational teaching as a whole, then they point up the fact that the lack of minority vocational teachers is a serious problem. Moreover, unless a major minority recruitment and enrollment effort is made within the field, it is a problem that will grow increasingly more serious as the number of minority students high school and in vocational programs rapidly increases in the years immediately ahead. Although such a recruitment effort is critical, it will also be increasingly more difficult in the future as others within and outside education seek to extend their own minority recruitment and training programs, and as minorities continue to broaden their employment opportunities and seek preparation for jobs with higher salaries and more prestige than teaching.

The average age of the teachers was 33.2 years old and ranged from 22 to 66 years old. This average age is probably somewhat higher than might be expected for beginning teachers in general and is probably accounted for by the fact that, for certification, most states require from three to six or more years of full-time work experience in the occupation to be taught. Even in the several teaching areas that typically do not require trade experience (e.g., industrial arts, home economics), it isn't unusual for teachers to come from full-time jobs in business and industry and therefore to be somewhat older than beginning teachers in general.

As shown in table 3, approximately 75 percent of the beginning teachers had completed Bachelor's degrees or higher

TABLE 3

NUMBER AND PERCENTAGE DISTRIBUTION OF VOCATIONAL TEACHERS BY HIGHEST LEVEL OF EDUCATION COMPLETED

	No.	%	
High school diploma only	21	2.9	
Some college--no degree	110	15.1	26.5%
Associate degree (2 or more years)	62	8.5	
Bachelor's degree	117	24.4	
Bachelor's degree plus	283	38.8	
Master's degree	32	4.4	75.2%
Master's degree plus	40	5.5	
Doctorate	5	.7	
No Response	10	1.4	

levels of education. Twenty-six percent (N=193) were "nondegreed" vocational teachers having completed some college, or perhaps a two-year associate degree, but not completing the baccalaureate degree. Moreover, the health, trade and industrial subjects, and technical occupations service areas had significantly more

nondegreed teachers than the other service areas. Whereas 73 percent of the T&I teachers did not have degrees (N = 108), half of the technical teacher (N = 17) and health occupations teachers (N = 25) did not have degrees.

Most of the teachers in the study were secondary school teachers (see table 4). Almost 69 percent of those responding taught in comprehensive high schools (46.8 percent) and secondary-level area vocational schools (21.9 percent). However, analysis of variance of teachers' age by service area revealed that those who taught health, trade and industrial subjects, and technical occupations were predominantly postsecondary teachers and they were significantly older than the teachers in the other occupational service areas.

TABLE 4

TYPE OF INSTITUTION IN WHICH TEACHERS TAUGHT

Type of Institution	No.	%
Junior High School	65	8.8
Comprehensive High School	340	45.9
Area Vocational School-Secondary	159	21.5
Vocational School-Postsecondary	67	9.1
Specialty Vocational School-Secondary	15	2.0
Specialty Vocational School-Postsecondary	12	1.6
Correctional Facility	0	0.0
Military	8	1.1
Business/Industry	1	0.1
Other	44	5.9
No Response	29	3.9

Almost all of the teachers (98 percent) taught in public institutions, whereas only 2 percent taught in private institutions. At the beginning of their second year of teaching, the majority (95 percent) were teaching in the same school they started at a year earlier.

At first glance there would appear to be a discrepancy between the number and percent distribution of the sample by areas of certification and teaching (table 5) and the number and percent distribution by area of college major (table 6). On the one hand, about half of the beginning teachers said they majored predominantly in four areas: business and office occupations (N=124), industrial arts (N=84), agricultural education (N=67), and occupational home economics (N=62). The remaining half majored in areas outside of vocational education, were distributed among the several other occupational teaching areas, or did not report a college major.

On the other hand, nearly half of the teachers said they were certified and taught in three vocational areas: trade and industrial occupations (N=136), consumer and homemaking education (N=93), and business and office occupations (N=91). There is an apparent disagreement in the order and areas of college majors and the order and areas of certification and teaching.

This apparent discrepancy might be explained by several factors. First, the apparent differences in the trade and industrial area might be due to the fact that traditionally this area has had a large number of nondegreed teachers who entered the field directly from jobs in business and industry. If the majority of nonrespondents to the question on college majors was actually nondegreed teachers in the trade and industrial area, then this area would more nearly approach the size of the group that reported it was certified and taught in this area. Second, some teachers were certified in more than one area and some taught

TABLE 5

FREQUENCY AND PERCENT DISTRIBUTION OF
BEGINNING VOCATIONAL TEACHERS BY SERVICE AREA:
CERTIFICATION AND SUBJECTS TAUGHT

Service Area	Certification		Subjects Taught		Certified and Taught	
	No.	%	No.	%	No.	%
Agricultural Education	74	10.0	73	9.9	67	9.0
Marketing & Distributive Education	35	4.7	35	4.7	27	3.6
Health Occupations Education	49	6.6	54	7.3	48	6.4
Consumer and Homemaking Education	108	14.6	107	14.5	93	12.5
Occupational Home Economics Education	1	.1	1	.1	1	.1
Business & Office Education (e.g., typing, shorthand, etc.)	103	13.9	100	13.5	91	12.2
Trade and Industrial Occupations Education	160	21.6	166	22.4	136	18.2
Technical Occupations Education	38	5.1	37	5.0	32	4.3
Industrial Arts (General Education)	80	10.8	71	9.6	65	8.7
Special Education	11	1.5	15	2.0	7	.9
Other	80	10.8	94	12.7	61	8.2
No Certification	27	3.6	1	.1	1	.1

TABLE 6

NUMBER AND PERCENT DISTRIBUTION OF
BEGINNING VOCATIONAL TEACHERS BY COLLEGE MAJOR

Major	No.	%
Agricultural Education (including horticulture, animal husbandry, etc.)	67	9.05
Marketing and Distributive Education	24	3.24
Health Occupations Education	47	6.35
Consumer and Homemaking Education	53	7.16
Occupational Home Economics Education	62	8.38
Business and Office Occupations Education	124	16.76
Trade and Industrial Occupations Education	33	4.46
Technical Occupations Education	23	3.11
Industrial Arts Education	84	11.35
Special Education	4	.54
Vocational Education (General major)	37	5.00
General Education	18	2.43
Other (including Liberal Arts, Fine Arts, Social work, etc.)	78	10.54
No Response	86	11.62
Total	740	100.00

in more than one area. Twenty-seven were teaching without certification. Each of these factors could help account for the higher numbers certified and teaching in the several areas compared to the number of college majors reported in those areas. Finally, it may be that, because they were teaching at the high school level where consumer and homemaking education is more common than occupational home economics, the large number of occupational home economics college majors may have sought certification and teaching assignments in non-occupational consumer and homemaking education.

In their first year of teaching (1985-86), the beginning teachers taught an average of 84.3 students and 22.4 special needs students. However, the number of students taught differed significantly by service area. Analysis of variance revealed that industrial arts ($\bar{x}$ = 163.2), consumer and homemaking ($\bar{x}$ = 111.3), and business and office ($\bar{x}$ = 103.0) teachers taught significantly more students, on average, than teachers in the other occupational service areas.

After one year of teaching, the satisfaction of the study sample of teachers with various aspects of teaching was mixed (see table 7). On average, they were most satisfied with the administrative support they received, class sizes, and school facilities. They were least satisfied with their opportunities for input into school decisions. They were also dissatisfied with the parental support they received, their opportunities for advancement, and the time they had available for preparation. In spite of these dissatisfactions, when asked how long they

TABLE 7

TEACHERS' SATISFACTION WITH VARIOUS ASPECTS OF TEACHING

SATISFACTION
1 = Not satisfied at all
2 = Somewhat satisfied
3 = Very satisfied

	Degree of Satisfaction (%)					
Aspects of Teaching	1	2	3	$\bar{x}$	SD	
Salary	22.7	51.9	25.3	2.03	.69	(730)
Prestige	20.4	54.6	25.1	2.06	.67	(722)
Administrative support	20.5	33.3	46.2	2.26	.78	(730)
Parental support	33.4	42.5	24.1	1.91	.75	(697)
Opportunity for input into school decisions	33.3	47.1	19.6	1.86	.72	(726)
Facilities	19.6	42.2	38.1	2.19	.74	(729)
Class size	16.7	43.2	40.1	2.23	.72	(731)
Time for preparation	28.6	42.0	29.4	2.01	.76	(731)
Discipline	23.4	48.5	28.1	2.05	.72	(726)
Opportunity for advancement	27.5	51.4	21.1	1.94	.70	(714)
Other	40.4	19.2	38.5	2.02	.94	(52)

anticipated remaining in teaching, almost half said they expected to remain from 2 to 10 years and the second half anticipated staying indefinitely (see table 8).

TABLE 8

ANTICIPATED TIME TO REMAIN
IN THE TEACHING PROFESSION

Length of Time	No.	%
One year	18	2.4
Two to five years	208	28.1
Six to ten years	146	19.7
Indefinitely	346	46.8
No Response	22	2.9

Conversely, the aspects of teaching the beginning teachers liked most in their first year were the intrinsic aspects of the job--all clearly related to the interactions and relationships with students. Other aspects of teaching or school facilities and personnel were not rated highly (see table 9). Almost one-third said that seeing students grow and succeed was the thing they liked best about teaching (N=226). Another one-fourth felt that helping, influencing and working with young people was their favorite thing (N=183). Thirteen percent (N=95) reported that interaction and communication with students on a personal level was the thing they liked most about first-year teaching. These findings are also consistent with those of the AACTE (1987) survey which reported that 90 percent of education majors wanted to become teachers in order to help children grow and learn.

These findings on beginning vocational teacher job satisfaction and anticipated time to remain in teaching are

TABLE 9

TEACHERS' FAVORITE THINGS ABOUT TEACHING
IN THE FIRST YEAR

Favorite Aspects of Teaching	No.	%
Seeing students grow and succeed	226	30.54
Helping, influencing, working with young people	183	24.73
Student/teacher interaction and communication--personal level	95	12.84
Challenges and personal growth	37	5.00
Positive student feedback and respect from students	32	4.32
Communication with administrators and staff	21	2.84
Seeing students apply what they have learned (theory into practice)	18	2.43
Freedom within curriculum--teaching what and how I want to teach	15	2.03
Hours and/or pay	10	1.35
Variety in tasks and activities--being creative in teaching	10	1.35
Vacation	7	.95
Community and/or parental interaction/support	5	.68
No Response	81	10.95
Total	740	100.00

consistent with the newly released findings of the Metropolitan Life annual survey of the American teacher (1987). These data revealed that teacher morale rose significantly in 1987, with the number of teachers saying they were satisfied with their jobs rising from 81 percent to 85 percent. In addition, according to an article in the September 10, 1987, issue of Teacher Education Reports, the pollsters found that "the number now saying that they are likely to give up teaching within the next five years declined from 27 percent in 1986 to 22 percent this year [1987]" (p. 2). The article goes on to state that this change in attitude is "most marked among those young and new teachers with less than five years experience. In 1986 the surveyors found that 39 percent of these teachers were contemplating a career change, but that number has plummeted by nearly half to 20 percent this year" (p. 2). Additionally, the recent AACTE (1987) survey of college education majors found that nearly half plan to teach for at least 10 years, while 27 percent said they plan to teach twice that long.

Preservice and Inservice Preparation

Sixty-nine teacher education institutions in the 24 states surveyed by the study returned usable questionnaires (61 percent rate of return). Table 10 provides a detailed summary of teacher educator returns by state and by region. Appendix A contains a listing of the 69 institutions.

The respondents for the teacher education institutions were primarily administrators (54.5 percent) or faculty members (43.9 percent). Most of them (41.5 percent) were responsible in their

TABLE 10

NUMBER AND PERCENT OF USEABLE RETURNS FOR
TEACHER EDUCATION INSTITUTIONS BY STATE AND REGION

Regions/States	Number of Institutions	Useable Returns No.	%
New England			
Massachusets	3	2	66
Vermont	1	1	100
New Hampshire	2	1	50
Subtotal	6	4	66
Mid Atlantic			
Maryland	2	0	00
Pennsylvania	8	3	38
Delaware	2	1	50
Subtotal	12	4	33
Great Lakes			
Indiana	4	2	50
Ohio	10	8	80
Wisconsin	4	4	100
Subtotal	18	14	78
Plains			
Missouri	7	5	71
Kansas	6	4	66
Nebraska	6	4	66
Subtotal	19	13	68
South East			
Mississippi	5	3	60
North Carolina	6	5	83
Tennessee	7	4	57
Subtotal	18	12	66
South West			
Arizona	2	1	50
Texas	13	5	38
New Mexico	4	3	75
Subtotal	19	9	47
Rocky Mountains			
Montana	2	1	50
Colorado	2	2	100
Wyoming	1	1	100
Subtotal	10	4	80
Far West			
California	10	3	30
Washington	6	5	83
Oregon	1	1	100
Subtotal	17	9	53
Total	114	69	61%

jobs for all vocational service areas offered at their institution, or they were college, department, or school administrators (32.3 percent). Twenty percent were responsible for a specific vocational service area.

The average number of full-time education faculty at the institutions (including vocational education) was 63 faculty. The average size of the full-time vocational education faculty was 10 members. On average, education faculties included 17 part-time faculty, of which 5 were faculty in vocational education (see table 11).

TABLE 11

FULL-TIME AND PART-TIME FACULTY

Faculty	Full-time ($\bar{x}$)	Part-time ($\bar{x}$)
Education Faculty (including vocational education)	63 (59)	17 (38)
Vocational Education Faculty	10 (54)	5 (31)

NOTE: The numbers in brackets are the number of institutions responding to the question.

Nearly one-third of the institutions did not report student enrollment figures. For the two-thirds responding, the average full-time enrollment in teacher education (including vocational teacher education) was 366 students--166 students was the average part-time enrollment. The average full-time enrollment in all service areas of vocational teacher education was 99 students--the average part-time enrollment was 47 students.

Table 12 shows that most students entered the vocational teacher education program either in their junior year of college (44.9 percent) or their freshman year (30.4 percent). The average

TABLE 12

POINT OF ENTRY INTO TEACHER EDUCATION PROGRAM

Point of Entry	Teacher Education	Vocational Teacher Education
Beginning of:		
Freshman Year	23.9	30.4
Sophomore Year	15.9	14.5
Junior Year	44.9	44.9
Senior Year	1.4	1.4
At post-baccalaureate level	2.9	8.7

time required to complete the vocational teacher program was 3.6 years (see table 13).

TABLE 13

TIME REQUIRED TO COMPLETE
VOCATIONAL TEACHER EDUCATION PROGRAM

No. of years	No.	%
1	1	1.4
2	11	15.9
3	4	5.8
4	45	65.2
5	2	2.9
6	1	1.4
No Response	5	7.2
Total	69	100.0%

Almost all of the institutions (95.7 percent) were accredited by their respective states. Sixty-one percent had regional accreditation and 84.1 percent were accredited by North Central Association for Teacher Education (NCATE). Six of the institutions were members of the University Council for Vocational Education and 20 were members of the Holmes Group, Inc.

Table 14 shows the types of vocational teacher preparation programs offered by the responding institutions and a rough estimate of the relative size of the programs as indicated by the average number of graduates from each program in the 1984-85 academic year. Over three-fourths of the institutions offered industrial arts programs. Consumer and homemaking, office occupations, and trade and industry programs were each offered by close to two-thirds of the institutions.

By far, the business education program, offered by over 50 percent of the institutions, was the largest program in terms of average number of graduates ($\bar{x}$=20.1). This was followed by agricultural programs ($\bar{x}$=15.5), industrial arts programs ($\bar{x}$=11.0), and office occupations programs ($\bar{x}$=10.7).

However, these estimates are based on relatively small numbers of respondents. For example, although 55 institutions offered programs in health occupations, only 10 institutions supplied data on the number of program graduates in this service area. The large number of institution that did not respond to the questions regarding numbers of graduates suggests that this information may not be widely known or readily available within the institutions. Thus, these data are only rough estimates and should be treated accordingly.

Table 15 reveals some surprising findings regarding the entry requirements used by the responding institutions for admission of students to preservice vocational teacher education programs. First, it appears that entry requirements have not changed much over time. Thus, the current entry requirements used and not used

TABLE 14

VOCATIONAL TEACHER PREPARATION PROGRAM BY SERVICE AREA AND BY PROPORTION OF GRADUATES

Vocational Service Area	Program Offering No.	%	Proportion of 1984-1985 Graduates
Agricultural Education	26 (59)	44.1	15.5 (22)
Marketing and Distributive Education	27 (60)	45.0	6.3 (19)
Health Occupations Education	16 (55)	29.1	4.4 (10)
Consumer and Homemaking Education	40 (61)	65.6	9.5 (28)
Occupational Home Ec. Education	34 (60)	56.7	6.6 (18)
Office Occupation Education (e.g., typing, shorthand)	38 (61)	62.3	10.7 (29)
Other Business Education	24 (45)	53.3	20.1 (11)
Trade and Industry Education	37 (57)	65.0	9.7 (29)
Technical Occupations Education	19 (54)	35.2	9.4 (14)
Industrial Arts Education	47 (60)	78.3	11.0 (40)

TABLE 15

ENTRY REQUIREMENTS FOR ADMISSION TO
PRESERVICE VOCATIONAL TEACHER EDUCATION PROGRAMS

Entry Requirement	Current Requirement		Requirement for '85 Grads	
	No.	%	No.	%
High School Diploma				
Required	55	79.7	46	66.6
Not Required	10	14.5	8	11.6
No Response	4	5.8	15	21.7
Occupational Certificate or License				
Required	10	14.5	9	13.0
Not Required	49	71.0	43	62.3
No Response	9	13.0	18	26.1
Related work Experience[a]				
Required	33	47.8	29	42.0
Not Required	28	40.6	24	34.8
No Response	8	11.6	16	23.2
Prior Experiences Working with Youth[a]				
Required	9	13.0	9	13.0
Not Required	48	69.6	40	58.0
No Resonse	10	14.5	18	26.1
Personal Letters of Recommendation				
Required	24	34.8	19	27.5
Not Required	37	53.6	32	46.4
No Response	8	11.6	18	26.1
Interviews				
Required	26	37.7	19	27.5
Not Required	36	52.2	34	49.3
No Response	9	13.0	16	23.2
High School Grade Point Average (GPA) [b]				
Required	17	24.6	15	21.7
Not Required	42	60.9	32	46.4
No Response	10	14.5	22	31.9
High School Class Rank[c]				
Required	26	37.7	23	33.3
Not Required	37	53.6	28	40.6
No Response	6	8.7	18	26.1
Cumulative Undergraduate GPA[d]				
Required	51	73.9	40	58.0
Not Required	12	17.4	13	18.8
No Response	6	8.7	16	23.2

NOTE: (a) The average number of years of experience, in both cases, was 3 years.
(b) The average high school GPA required currently and for '85 Grads was 2.0.
(c) The average class rank required currently was 48.7; required for '85 Grads was 61.
(d) The average cumulative undergraduate GPA required currently and for '85 Grads was 2.4.

by the institutions are about the same as those used and not used in 1981 and 1983 when most 1985 graduates entered the teacher education programs. For example, most of the institutions do not require prior experiences working with youth or personal letters of recommendation for admission to their programs and this has not changed since the early 1980s. The large majority of institutions used an average undergraduate cumulative GPA of 2.4 points for program admission currently and in the early 1980s. Almost 48 percent of the institutions required an average of 3 years of work experience related to the vocational service area students intended to enter.

Other surprising findings included the fact that, although 80 percent of the institutions required a high school diploma for admission, almost 15 percent did not require one. Surprisingly, most of the institutions did not use high school class rank or high school GPA for their admission decisions. However, for the 25 percent of the institutions that did use high school GPA, the average GPA required was 2.0 points. This was the same GPA required in the early 1980s.

There was no apparent change in the number of institutions requiring courses in communications and mathematics or in the average number of credits required in these courses for admission to teacher education programs (see table 16). In general, about 7 to 8 credits on average were required in communications courses, and 4 to 5 credits on average in mathematics courses were required for program admission.

TABLE 16

PREREQUISITE COURSES IN COMMUNICATIONS AND MATHEMATICS
REQUIRED FOR ADMISSION TO PRESERVICE VOCATIONAL TEACHER EDUCATION PROGRAMS

Entry Requirements	Current Entry Requirements				Requirements for 1985 Grads			
	No.		%	Average No. Credits Required	No.		%	Average No. Credits Required
Communications (including English and language arts)	41	(61)	67.2	7.7 (31)	30	(50)	60.0	7.5 (23)
Mathematics (including algebra, geometry, statistics, etc.)	31	(60)	51.7	4.8 (24)	21	(47)	44.7	3.6 (18)

Interestingly, almost 88 percent of the institutions (N=57) required 1 or 2 additional courses in mathematics and 71 percent required 3 to 4 additional courses in communications as part of their vocational teacher education program (see table 17). A course was defined as one that met for 2 to 5 classroom hours per week during one semester or quarter. Additionally, 64 percent required 2 to 3 courses in the humanities and fine arts, 62.5 percent required 2 to 3 courses in science, and 70 percent required 2 to 3 courses in the social sciences. Almost 59 percent required one course in computer skills, whereas 32 percent did not require computer skills courses. Comparing the average number of courses actually taken in these academic areas by beginning vocational teachers (table 18) with the institutional course requirements in the areas (table 17) shows that, in general, the beginning teachers met or exceeded the institutional requirements in each of the areas.

If it is assumed that a college course is equivalent to 3 college credits, then the courses taken and institutional credit

TABLE 17

INSTITUTIONAL COURSE REQUIREMENTS IN ACADEMIC AREAS OTHER THAN EDUCATION

Course Requirements	NUMBER OF COURSES												
	None		One		Two		Three		Four		Five or More		
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	Mean
Communications, e.g., English, language arts, speech	2	3.1	2	3.1	9	13.8	31	47.7	15	23.1	6	9.2	3.0 (65)
Mathematics, e.g., algebra, geometry, statistics	3	4.6	27	41.5	30	46.2	4	6.2	1	1.5	—	——	1.6 (65)
Humanities and Fine Arts, e.g., languages, philosophy, music	3	4.7	3	4.7	16	25.0	25	39.1	9	14.1	8	——	3.0 (64)
Science, e.g., biology, geology	2	3.1	5	7.8	24	37.5	16	25.0	9	14.1	8	12.5	2.8 (64)
Social Science, e.g., psychology, economics	2	3.1	—	——	18	28.1	27	42.2	10	15.6	7	10.9	3.0 (64)
Computer skills, e.g., key-boarding, programming	21	32.3	38	58.5	4	6.2	2	3.1	—	——	—	——	0.8 (65)

TABLE 18

COURSES TAKEN BY BEGINNING VOCATIONAL TEACHERS
IN AREAS OTHER THAN EDUCATION

Areas of Study	Percent of Teachers Taking Courses						
	1 crse.	2 crses.	3 crses.	4 crses.	5 or more crses.	None	Mean
Communications, e.g., English, language arts, speech	5.0	8.2	21.7	22.3	32.4	10.4 (695)	3.38
Mathematics, e.g., algebra, geometry, statistics	17.9	22.5	20.3	12.6	13.0	13.7 (693)	2.40
Humanities and Fine Arts, e.g., languages, philosophy, music	8.1	16.0	21.5	15.6	25.6	13.2 (692)	2.97
Science, e.g., biology, geology	9.0	18.7	16.8	14.3	27.5	13.6 (690)	2.91
Social Science, e.g., psychology, economics	6.8	13.2	18.3	18.1	32.2	11.4 (690)	3.23
Computer skills, e.g., keyboarding, programming	23.4	14.6	8.3	5.1	9.1	39.6 (685)	1.43

requirements in the 5 major academic areas for the beginning vocational teachers can be compared to 3 other estimates of academic requirements. These 3 estimates are all based upon a study of college transcripts conducted by Galambos, Cornett, & Spitler (1985) for the Southern Regional Education Board (SREB). Although there was considerable variability among the 17 institutions included in the SREB study and among the 69 institutions in the present study, several trends can be noted (see table 19).

TABLE 19

COMPARISONS OF BEGINNING TEACHER ACADEMIC
PREPARATION WITH SREB TRANSCRIPT STUDY DATA

Average Total Hours in:	Present Study		SREB Transcript Study(a)		
	Average Credits Taken by Teachers(b)	Average Institutional Requirements(c)	Average for Academic Teachers	Average for Arts and Science Majors	Average Catalog Requirements
Mathematics	7.2	7.2	6.0	7.2	3.0
English	10.2	9.0	11.3	11.8	6.0
Social Science	9.6	9.0	21.6	20.4	6.0
Science	9.0	8.4	11.6	12.2	3.0
Humanities	9.0	9.0	26.1	34.0	—

NOTE: (a) Source is Galambos, Cornett, & Spitler, 1985.
(b) See table 18, p. 30.
(c) See table 17, p. 29.

First, it can be seen that, in all academic areas, the average institutional requirements reported for the 69 institutions in the present study exceeded the average catalog requirements listed for the 17 SREB institutions. Second, on average, the number of credit hours reportedly taken by beginning vocational teachers in mathematics (7.2 credits) is about the same as the average number of math credits taken by either academic teachers (6.0 credits) or by arts and science majors (7.2 credits).* The average number of English credits taken by the beginning vocational teachers (10.2 credits) was slightly less than the average number of English credits taken by the academic teachers and the arts and science majors (11.3 and 11.8 average credits respectively).

In each of the other three academic areas, the academic teachers and arts and science majors in the SREB study on average greatly exceeded the beginning vocational teachers in average credits taken and in average institutional requirements. Thus, it would seem that preservice vocational teacher programs and teachers were not greatly different from their academic counterparts, or arts and science majors in general, in terms of their basic skills (math and English) requirements. However, it seems clear that, in general, the beginning vocational teachers did not pursue a rigorous liberal arts program. In general, they

*However, it should be noted that Galambos et al. found that lower level mathematics courses, remedial courses, and courses in mathematics explicitly designed for teachers help account for the average number of credits in math for academic teachers. This may well be the case for the beginning vocational teachers as well, but data were not collected regarding the exact nature of the courses or credits taken by the beginning vocational teachers.

were considerably below academic teachers and arts and science majors in science, social science, and humanities credits required or earned. Moreover, T&I teachers took significantly fewer courses in these academic areas in their preservice preparation than any of the other beginning vocational teachers.

Based on their findings, Galambos, Cornett, and Spitler (1985) concluded that,

> when all teachers are considered together, they earned fewer general education credits than the arts and sciences graduates and a smaller proportion of the teachers' credits were upper level courses. . . . Teachers, as compared to arts and sciences graduates, take fewer hours in mathematics, English, physics, chemistry, economics, history, political science, sociology, and other social sciences, foreign languages, philosophy, and other humanities. (p. 29)

Moreover, Galambos et al. go on to point that "while arts and sciences graduates complete a more rigorous general education component than is true for teachers as a whole, this does not indicate that the core curriculum for the arts and sciences students is in great shape" (p. 78).

The findings regarding test requirements for teacher education program admission parallel those noted earlier for general admission requirements and prerequisite course requirements (see table 20). The American College Test (ACT) was the most popular test for admission currently and in the early 1980s. This was followed by the Scholastic Aptitude Test (SAT) and the Pre-professional Skills Test (PPST). Although the National Teacher Exam-Core Battery (NTE) was used currently by only 20.7 percent of the institutions, its use relative to the early 1980s had almost doubled. The number of institutions that

TABLE 20

TEST REQUIREMENTS FOR ADMISSION TO PRESERVICE VOCATIONAL TEACHER EDUCATION PROGRAMS

Entry Requirement	Current Entry Requirements				Requirement for 1985 Grads			
	Usage		Average Minimum Standards		Usage		Average Minimum Standards	
	No.	%	Percentile	Points	No.	%	Percentile	Points
Scholastic Aptitude Test scores (SAT)	21 (61)	34.4	50.0 (1)	484 (5)	15 (48)	34.4	50 (1)	760 (2)
American College Test scores (ACT)	24 (59)	40.7	31.7 (6)	16 (9)	18 (49)	36.7	29.3 (6)	15.4 (7)
California Achievement Test scores (CAT)	6 (56)	10.7	70.0 (1)	--- (0)	4 (48)	8.3	50 (1)	--- (0)
Pre-professional Skills Test scores (PPST)	17 (54)	31.5	23.8 (4)	171.6 (7)	9 (45)	20.0	70 (2)	171.3 (4)
Calif. Basic Skills Test scores (C-BEST)	5 (55)	9.1	(0)	84.3 (3)	2 (47)	4.3	--- (0)	--- (0)
National Teacher Exam Programs--Core Battery scores (NTE)	12 (58)	20.7	55.0 (2)	341.8 (4)	6 (49)	12.2	--- (0)	--- (0)
State Developed Exam	6 (54)	11.1	50.0 (1)	--- (0)	3 (44)	6.8	50 (1)	--- (0)
Standardized Occupational Competency Exam scores (e.g., NOCTI)	6 (57)	10.5	70.0 (1)	--- (0)	4 (50)	8.0	70 (1)	--- (0)

NOTE: Number in parentheses represents the actual number of teacher educators responding to the item.

reported average minimum acceptable standards on these tests for admission was inadequate to draw any conclusions.

In general, these findings regarding test requirements for program admission are similar to those reported for the 18 member institutions of the University Council for Vocational Education (Anderson 1985). Seven of the 18 institutions (almost 39 percent) reported that "passing a competency test was required prior to admission to teacher education" (p. 7).

Apparently, most institutions do not require competency examinations for graduation (see table 21). Of those requiring a competency test for graduation, no single test was used predominantly. However, almost half of the institutions (49.2 percent) used some part of the National Teacher Exam (NTE). For example, 18.8 percent used the NTE professional knowledge test for graduation whereas 17.4 percent used the NTE Core Battery.

TABLE 21

COMPETENCY EXAMINATIONS REQUIRED FOR GRADUATION FROM VOCATIONAL TEACHER EDUCATION PROGRAMS

Competency Tests	Usage		Minimum Score Required
	No.	%	Mean
Graduate Record Exam (GRE)	1	1.4	850
College Outcomes Measures Project Test (Comptest)	1	1.4	---
California Basic Skills Test (C-BEST)	3	4.3	61
NTE - Core Battery	12	17.4	534
NTE - Pedagogy	1	1.4	---
NTE - Professional Knowledge	13	18.8	559
NTE - General Knowledge	8	11.6	641.5
Teacher Occupational Competency Test (TOCT)	2	2.9	70
Other[a]	7	10.1	---

(a) PPST, NTE - Area exam, ACT, State Developed Exam, University Exam, Miller Analogies.

These findings of little or no change in the type or major of program admission and graduation requirements are surprising in light of all the recent attention given to wide-ranging improvements and increased rigor in teacher education by a variety of prestigious state and national groups starting with the National Commission on Excellence in Education, producers of the Nation at Risk report, and including, among others, the Carnegie Task Force on Teaching as a Profession, the Holmes Group, the two major teacher unions, and the American Association of Colleges for Teacher Education. Moreover, when asked how receptive they thought their institutions were to the recommendations of the Holmes Group, 47.8 percent of the respondents said they thought their institutions were receptive to them. Almost 22 percent said they were not receptive to them and 30.4 percent did not respond to the question.

In general, these findings do not support those reported by the study of member institutions of the University Council for Vocational Education (Anderson 1985). According to that study, "pre-student teaching competency testing and increased GPA requirements, both at entry into educational studies and at graduation were noted as trends in undergraduate education" (p. 141). A related conclusion of the University Council study not supported by the present study was the conclusion that "the quality of students admitted to undergraduate programs [in vocational education] has increased" (p. 9). Nothing in the present study would lead one to conclude that, in general, the

quality of students or the quality or rigor of the undergraduate program has increased since the early 1980s.

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